

REMARKS

New claims 23-26 are presented for consideration. All previously pending claims have been cancelled without prejudice or disclaimer.

Claim 23 recites a twisted nematic (TN) liquid crystal panel portion having thin film transistors (which serve as switching elements) disclosed in applicants' specification at page 27, line 14 to page 28, line 9 and Fig. 7, the latter showing a nematic liquid crystal material 57 sandwiched between transparent electrode substrates 2 and 54b, wherein the long axes of the liquid crystal are twisted continuously by 90 degrees between the substrates. Claim 23 also calls for a backlight portion for supplying light from a rear surface side of the TN liquid crystal panel portion, as described in applicants' specification at page 28, lines 10-11, and also shown in Fig. 7. Claim 23 require the highest luminance of the backlight portion to be not greater than 5000 cd/m^2 . See the specification at page 32, lines 18 and 19, and Table 1. Expression (2) in claim 23 is described in the specification at

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page 26, line 2. All of the features in new claim 23 were among the element in the device of the now cancelled claims.

1. The drawings were objected to for not having been sent to the Official Draftsperson. We make of record a telephone discussion between applicants' representative, Robert N. Wieland and Examiner Hu on November 4, 2003, at which time it was agreed that Fig. 38 was correctly filed with the August 8, 2003 Amendment, and that no further action regarding the drawings by applicants is required. The Examiner is requested to telephone the undersigned if the stated understanding is not correct.

2. Claims 4, 6, 8-11, 13, 15, 17, 21, and 22 were subject to objections for stated minor informalities. Claims 4, 8-11, 15, 17, 21 and 22 have been cancelled, thereby mooting the objection. The criticized terms do not appear in the new claims.

3. Claims 8-10 were rejected under 35 U.S.C. §103(a) over Kunii et al. U.S. Patent 5,412,493 and Yamazaki et al. U.S.

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Patent 6,218,219; claims 4, 6, 11, 13, 21, and 22 were rejected under 35 U.S.C. §103(a) over Kuni et al. '493, Yamazaki et al. '219 and Applicants' Admitted Prior Art (AAPA); and claims 15 and 17 were rejected under 35 U.S.C. §103(a) over Kunii et al. '493, Yamazaki et al. '219, AAPA and Ohta et al. U.S. Patent 6,532,053. Claims 4, 8-11, 15, 17, 21 and 22 have been cancelled, thereby mooted the rejections. The new claims patentably define over the cited art.

The presently claimed thin film transistor (TFT) includes a TN liquid crystal panel portion with thin film transistors (the TFTs serve as switching elements); and a backlight portion that supplies light from a rear surface side of the TN liquid crystal panel portion; the TFTs of the TN liquid crystal panel portion each have a polycrystalline silicon semiconductor layer with a channel region, a source region, and a drain region, the source region and the drain region respectively located on opposite sides of the channel region, the drain region having a lightly doped drain (LDD) region; the relationship of expression (2)

$$(R+30) \cdot W < 1 \times 10^3 \quad (2)$$

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is satisfied, where R ($k\Omega/\square$) is the sheet resistance of the LDD region and W (μm) is the channel width of the channel region, and the highest luminance of the backlight portion is not greater than 5000 cd/m^2 . This arrangement is nowhere disclosed or suggested in the cited reference.

Expression 2 in claim 23 is satisfied by Examples 1-3 in Table 1 on page 34 of applicants' specification, providing the unique effect of suppressing OFF current during irradiation of light. Also, see applicants' specification at page 33, lines 20-24. When OFF current is suppressed, the liquid crystal display device can prevent crosstalk and luminance gradation, thus permitting high performance. None of AAPA, Kunii et al. '493, Yamazaki et al. '219 or Ohta et al. '053 discloses or suggests a TN display panel meeting the relationship of expression (2) so that suppression of OFF current occurs during irradiation of light.

Allowance of the case is earnestly solicited.

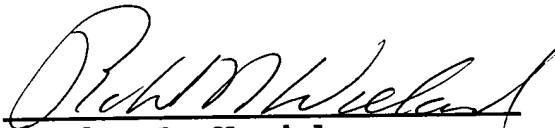
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Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

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Date


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